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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,800	03/03/2004	Masao Tomikawa	360842006010	4377
25227	7590	03/07/2005	EXAMINER	
MORRISON & FOERSTER LLP 1650 TYSONS BOULEVARD SUITE 300 MCLEAN, VA 22102			CHU, JOHN S Y	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/790,800

Applicant(s)

TOMIKAWA ET AL.

Examiner

John S. Chu

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/567,106.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/3/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to the application filed March 3, 2004 and is a continuation of parent application 09/567,106, now U.S. Patent No. 6,723,484 B1.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6,723,484 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because the recited scope of the current application is fully encompassed by the claims of the U.S. patent.

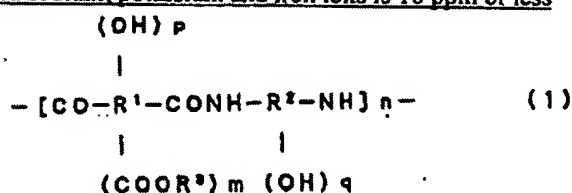
The invention as claimed is drawn to the following:

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1. (Amended) A positive-working photosensitive resin precursor composition which is characterized in that it contains (a) polymer in which structural units of the kind denoted by general formula (1) are the chief component and (b) photoacid generator, and the total carboxyl groups contained in said polymer is from 0.02 to 2.0 mmol/g, wherein one of the following conditions (A) and (B) is satisfied.

(A) a residual chlorine ion concentration is 30 ppm or less

(B) a residual quantities of sodium, potassium and iron ions is 10 ppm or less

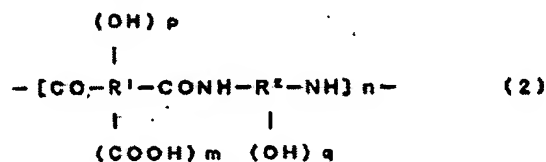


(R¹ is an organic group of valency from 3 to 8 having at least 2 carbon atoms, R² is an organic group of valency from 2 to 6 having at least 2 carbon atoms, R³ is hydrogen or a monovalent organic group with from 1 to 10 carbons but it is not all hydrogen nor is it all a monovalent organic group with from 1 to 10 carbons. n is an integer of value from 3 to 100,000, m is 1 or 2, p and q are integers of value from 0 to 4 p + q > 0 [.)]).

and

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13. (Amended) A method of producing a positive-working photosensitive resin precursor composition according to Claim 1 which is characterized in that the compound represented by the general formula (1) is produced by treating polymer in which structural units represented by general formula (2) are the chief component with at least one type of compound represented by general formulae (3), (4) or (5).

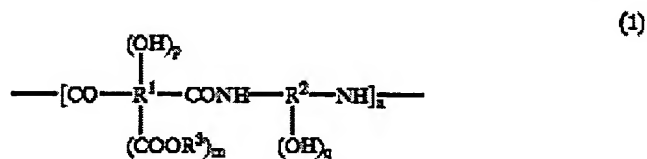


(R¹ is an organic group of valency from 3 to 8 having at least 2 carbon atoms, and R² is an organic group of valency from 2 to 6 having at least 2 carbon atoms. n is an integer of value from 3 to 100,000, m is 1 or 2, p and q are integers of value from 0 to 4 and p + q > 0[.))).

TOMIKAWA et al fully encompasses the claimed invention as now recited as seen in the claims of the U.S. Patent below:

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1. A positive-working photosensitive resin precursor composition comprising a polymer having structural units denoted by general formula (1) and a photoacid generator,



wherein R^1 is an organic group of the valency from 3 to 8 having at least 2 carbon atoms, R^2 is an organic group of the valency from 2 to 6 having at least 2 carbon atoms, and the hydroxyl group and the amide group are bonded to adjacent carbon atoms of R^2 or R^2 is an organic group of valency from 2 to 6 having at least 2 carbon atoms, and the hydroxyl group and the amide group bonded to R^2 are in positions capable of forming an oxazole ring, R^3 is selected from the group consisting of a single hydrogen atom and a monovalent organic group with from 1 to 10 carbon atoms, n is an integer of value from 3 to 100,000, m is 1 or 2, p and q are integers of value from 0 to 4, $p+q>0$, the absorbance of said polymer at 365 nm is no more than 0.1 per 1 μm of film thickness, and wherein said polymer comprises structural units according to general formula (1) where R^3 is a single hydrogen atom and structural units according to general formula (1) where R^3 is a monovalent organic group having from 1 to 10 carbon atoms, such that the total carboxyl groups contained in said polymer is from 0.02 to 2.0 mmol/g.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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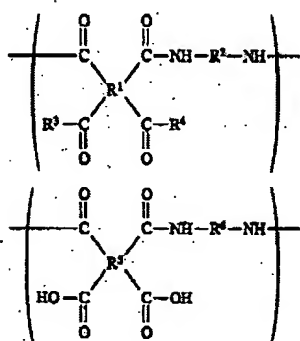
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12 and 16 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over OBA et al (5,518,864).

The claimed invention has been recited above and is included by reference.

OBA ET AL discloses a photosensitive composition comprising a polyamic acid and an o-naphthoquinone diazide compound, which anticipates the claimed composition; see Examples 20-24, 26. OBA et al also anticipate the claimed invention at Table F in columns 77 and 78.

Applicants are further directed to column 4, lines 1-68 wherein OBA et al discloses a second and third embodiment seen here for the copolymer as seen below:



The two structural units meet the embodiments of claim 1 when “R³ is hydrogen or a monovalent organic group with from 1 to 10 carbons, but it is not all hydrogen nor is it all a monovalent organic group...”.

With respect to the recited chlorine content, sodium content, potassium content and iron content new added to claim 1, the examiner notes that the scope as recited can include zero percent of the cations, and because the disclosure in OBA et al does not disclose the presence of these ingredients, the prior art examples are seen to anticipate the claimed scope.

With respect to the claimed absorbance of the 1 μ m thick composition as recited in claim 4, the examiner notes that these values would inherently be present in the prior art of OBA ET AL because of the similar type of ingredients used such that the absorption properties would be similar unless shown otherwise by applicant. The Office doesn't have the ability to test the prior art inventions and thus asserts because of the similar components that the prior art would reasonably possess the claimed characteristic based on the presence of the unesterified polyamic acid ester of formula (1) and the esterified polyamic acid ester of formula (1).

Claims 5-8 are also anticipated by the prior art wherein by selecting groups that would give a copolymer as the claimed polyamic acid as recited in formula (1).

None of the above claims are allowed.

6. Claims 1-16 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by TOMIKAWA et al (6,723,484).

The claimed invention has been recited above and is included by reference.

TOMIKAWA et al, to the same assignee possesses a different inventive entity to the current application and qualifies as prior art under § 102(e).

Applicants are directed to Examples 1-17 of Table 1 starting in columns 26 and 27. The examples disclose the claimed polyamic acid of formula (1) and the photosensitive quinone diazide compound.

No claims are allowed.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. YUKAWA et al, SHU, KATOU et al, OBA '407, NUNOMURA et al are cited of

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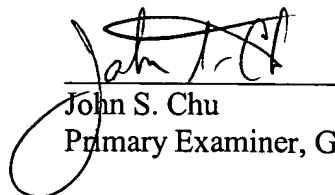
interest and where previously cited in the parent case and made of record in the current application.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

The fax phone number for the USPTO is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John S. Chu
Primary Examiner, Group 1700

J.Chu
February 24, 2005